

CONSCIOUSNESS: THE ENDLESS FRONTIER

22ND PROFESSIONAL SEMINAR

**PHYSICS, METAPHYSICS, AND THE
NATURE OF CONSCIOUSNESS**

Thomas Campbell
TMI – March 21 - 23, 2010

Thomas Campbell

MY BIG TOE

**AWAKENING ✦ DISCOVERY
INNER WORKINGS**

**The Complete My Big TOE Trilogy
Unifying Philosophy, Physics, and Metaphysics**

www.my-big-toe.com

**22ND PROFESSIONAL
SEMINAR**

TMI Keynote Address

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and the Nature of
Consciousness**

March 21, 2010

Presentation Slides are
Available at No Cost

www.MyBigTOE.com

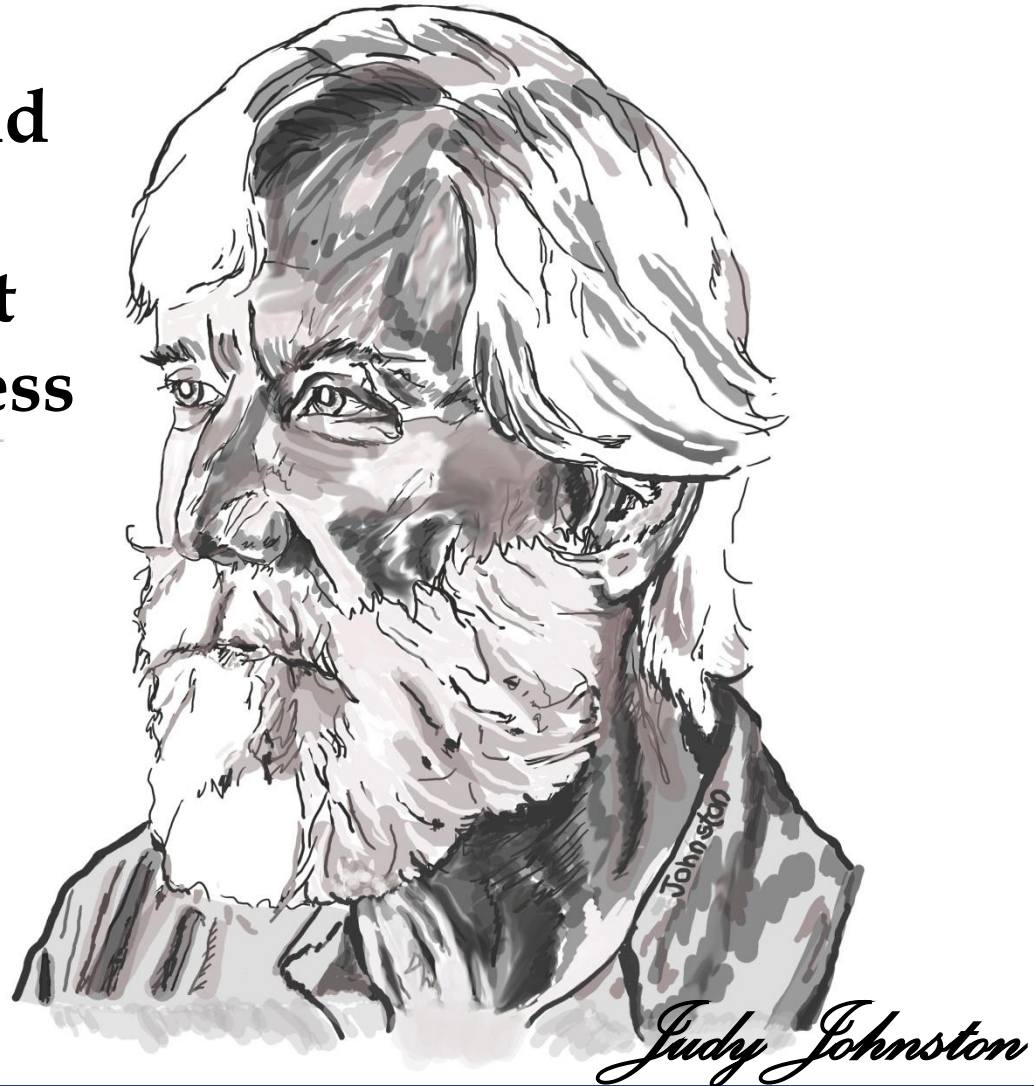
▣ Books are available
at the TMI bookstore

Introduction

Who is Tom Campbell?

How did a
physicist end
up writing
books about
consciousness

?



Now And Always A Scientist

- ▣ College -- Physics and Math
- ▣ Grad -- Physicist (experimental nuclear)
- ▣ Technical Intelligence (Government)
 - Physics, EE, Electronic Systems -- computer simulation
- ▣ National Missile Defense (Contractor)
 - Technology Development
 - ▣ Sensor Systems -- Radar
 - ▣ Models and simulation
 - ▣ Software Engineering
 - ▣ Program management
 - Systems Engineering
 - ▣ Integration
 - ▣ Vulnerability
 - ▣ Risk analysis
- ▣ NASA – DoD
 - Risk analysis
 - ▣ Physics models
 - ▣ System behavior prediction

Open Minded & Skeptical: The Path To MBT

- ▣ Early years – laying the foundation
- ▣ Connections to Bob Monroe
 - Setting up the lab
 - Learning about Altered States
 - Mastering OOB
 - Cut & try: The invention of Hemi-Sync
 - Doing experiments
 - ▣ Joint travel, communications, remote viewing, healing, death and dying
 - Teaching others
- ▣ Moving On
 - Learning accelerates, research never ends
 - Continuously developing the model and maintaining scientific integrity
- ▣ 35 years later -- the publication of My Big TOE
 - An inside job
 - First hand experience
 - Maintain scientific integrity



Section 1

The Fundamentals of Reality²⁷

Big Picture Scientific Models

- ▣ Physics describes how “**things**” work, not why things are.
- ▣ Little picture science has little interest in the subjective
 - meaning, significance, point and purpose – that is the realm of metaphysics
- ▣ Big Picture models must describe everything -- objective & subjective, physics & metaphysics, normal & paranormal – all reality frames and their source.
 - It must connect ALL the dots and fit ALL the data collected
- ▣ Little picture science is mostly about the interactive and causal “deterministic” behavior of the “objective” stuff
- ▣ To be valuable, Big Picture science must provide a superset -- **must** provide better, more complete physics **and** better, more complete metaphysics

A Historical Perspective

Albert Einstein – Unified Field Theory

- ▣ “If we think of the field as being removed, there is no ‘space’ which remains, since **space does not have an independent existence.**” – *Albert Einstein*
- ▣ “Reality is merely an illusion, albeit a very persistent one.” – *Albert Einstein*
- ▣ “Hence it is clear that **the space of physics is not, in the last analysis, anything given in nature or independent of human thought.** It is a function of our conceptual scheme [mind]. Space as conceived by Newton proved to be an illusion, although for practical purposes a very fruitful illusion – *Albert Einstein*

Unified Field Theory -- Conclusions

Physics: David Bohm

- ▣ "To meet the challenge before us our notions of cosmology and of the general nature of reality must have room in them to permit a consistent account of consciousness. Vice versa, **our notions of consciousness must have room in them to understand what it means for its content to be 'reality as a whole.'** The two sets of notions together should then be such as to allow for an understanding as to how consciousness and reality are related."
- - *David Bohm from the introduction to Wholeness and the Implicate Order*
- ▣ **"One has to find a possibility to avoid the continuum (together with space and time) altogether. But I have not the slightest idea what kind of elementary concepts could be used in such a theory."** - *Letter from Albert Einstein to David Bohm October 28, 1954*

The Double Slit Experiment (What Happened)

Light is a wave:

1 Photon →

Double slit

Present



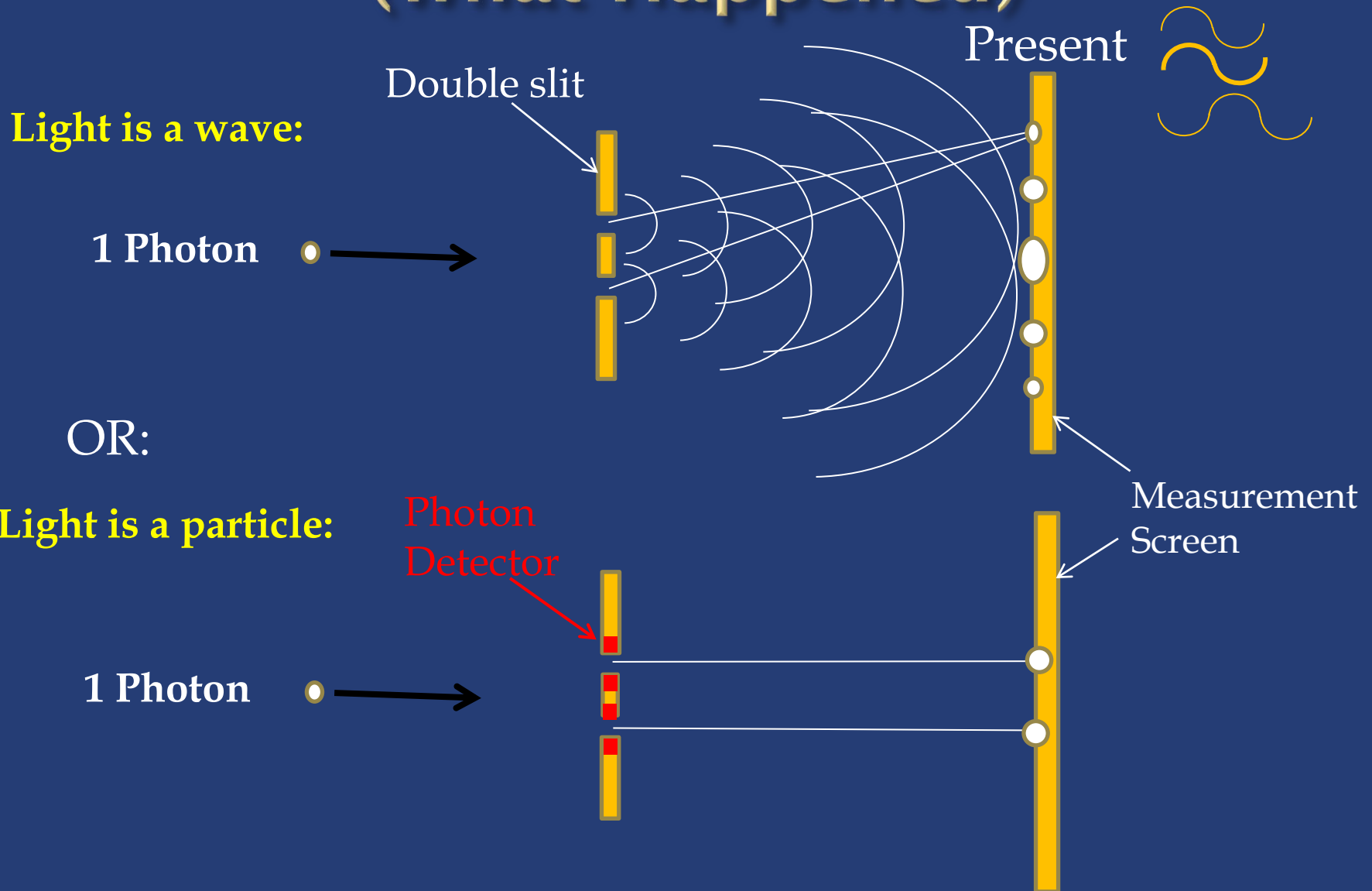
OR:

Light is a particle:

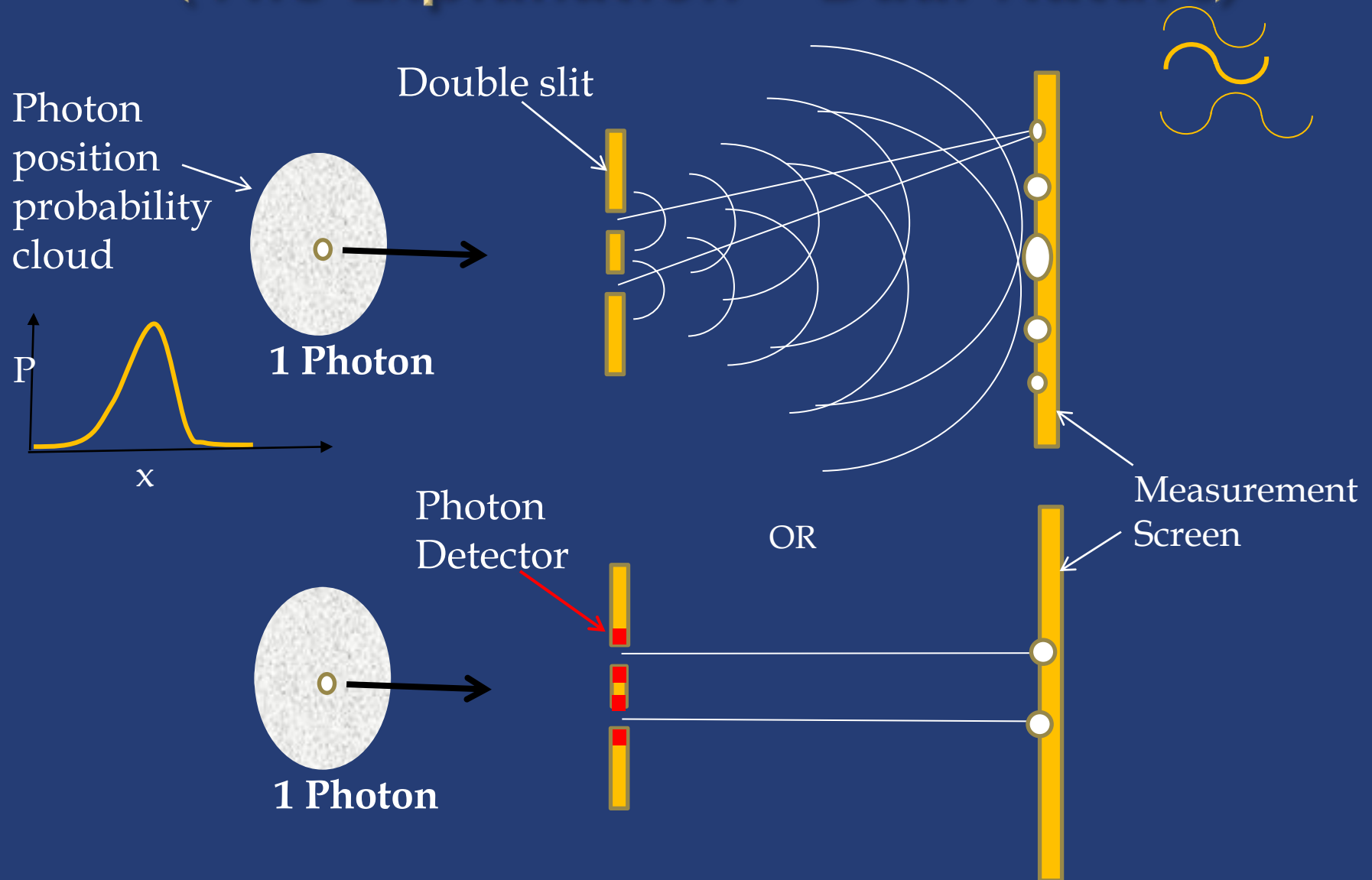
1 Photon →

Photon
Detector

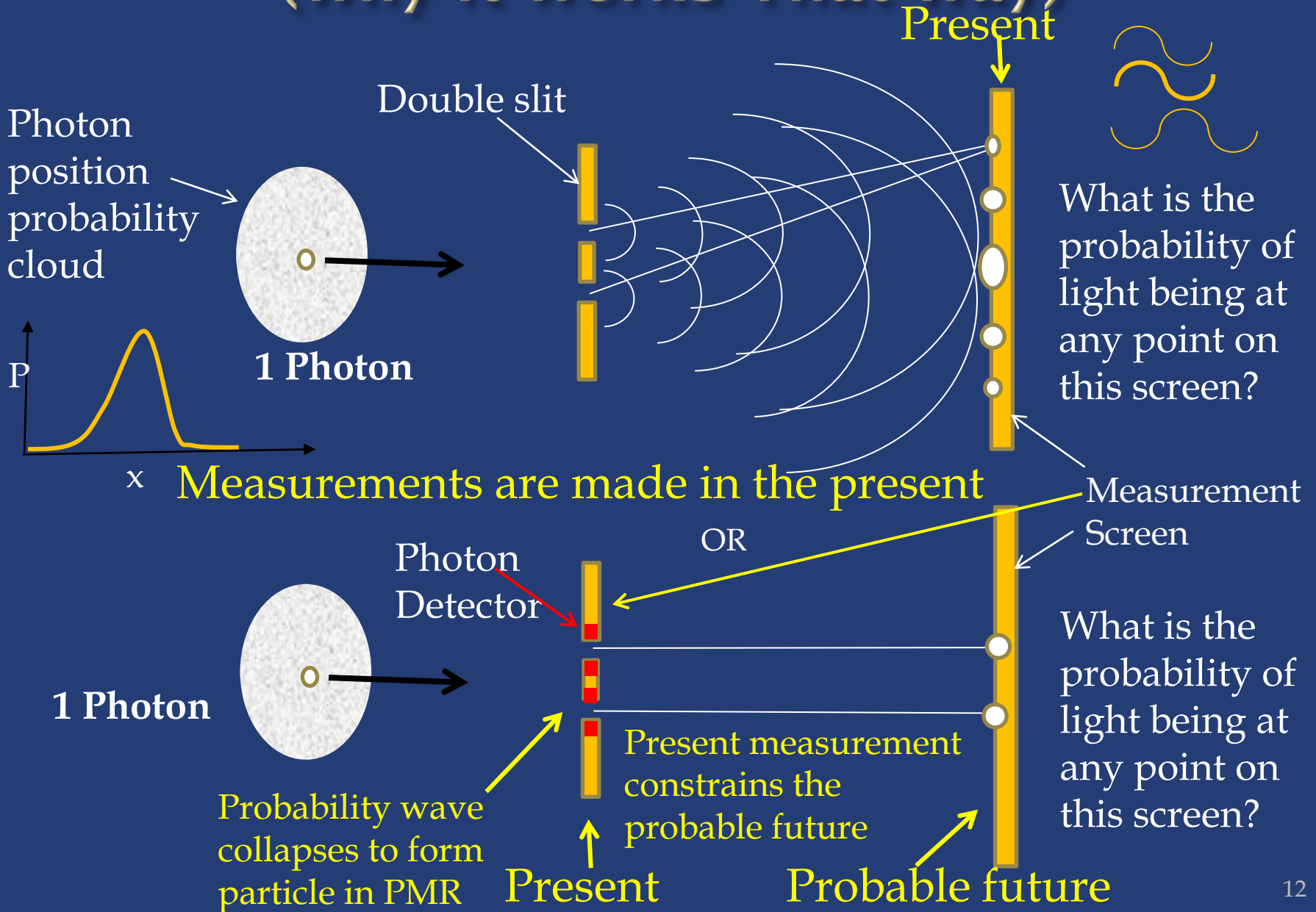
Measurement
Screen



The Double Slit Experiment (The Explanation – Dual Nature)



The Double Slit Experiment (Why It Works That Way)



Quantum Mechanics

Eugene Wigner

- ▣ “It will remain remarkable, in what ever way our future concepts may develop, that the very study of the external world led to **the scientific conclusion that the content of the consciousness is the ultimate universal reality.**” -- Eugene P. Wigner a Nobel Prize winner and one of the leading physicists of the twentieth century

Max Planck:

- ▣ “Science cannot solve the ultimate mystery of nature because, in the last analysis, **we ourselves are a part of the mystery that we are trying to solve.**” – Max Planck

Contemporary Scientific Big Pictures

- ▣ Edward Fredkin – Digital Physics -- 1992
 - the entire history of our universe is computable
 - Reality is:
 - ▣ A computer itself.
 - ▣ Implemented on a computer (a simulation)
 - ▣ Essentially digital.
 - ▣ Essentially informational
 - The computation must be in “other” outside of physical reality
- ▣ Nick Bostrom – Now at Oxford
 - *Are You Living In A Computer Simulation?* One must be true:
 - ▣ It's impossible
 - ▣ If not impossible, then unlikely
 - ▣ If not unlikely, then Almost all entities with our general set of experiences are most likely living in a simulation
- ▣ Brian Whitworth – **The Physical World as a Virtual Reality**
 - the universe is a virtual reality created by information processing, and furthermore this concept is supported by findings of modern physics about the physical world.

Consciousness and Reality

- ▣ Consciousness is the fundamental reality
- ▣ The larger consciousness system is a digital information system
 - At the most fundamental level:
 - ▣ Consciousness is information
 - ▣ Information is bits
 - ▣ Bits are binary
 - Information is nonphysical and subjective, thus consciousness is nonphysical and subjective
 - ▣ Information is the meaning, the content, the message, not the media or code symbols (storage & transmittal)
 - ▣ To convert the code symbols into meaning (grasp the information) requires a consciousness
 - ▣ understanding requires a subjective interpretation of the data relative to unique personal experience

Information, Systems, and Evolution

- ▣ Information in a digital system is represented by organized bits
- ▣ Information systems have entropy
 - Lower entropy implies :
 - ▣ greater level of organization, less randomness (noise)
 - ▣ More energy available to do work (greater potential to affect something else, to effect change)
- ▣ Self-changing systems with a purpose evolve to be more “successful” within their environments – evolve, stasis, de-evolve
- ▣ Large, complex self-changing information systems evolve by lowering their entropy
- ▣ Consciousness is a self-aware, self-modifying system evolving toward lower entropy states

Attributes of Consciousness

- ▣ Consciousness is a real, finite, large, complex, self modifying information system where stasis is unstable -- evolve or de-evolve
- ▣ Individual consciousness evolves toward lower entropy, higher quality, more spiritual states
 - Love is the nature of a low entropy consciousness
- ▣ Attributes of consciousness: sentient, self-aware, able to learn – i.e., its alive
 - Input (experience)
 - Memory
 - Processing (compare/assess experiences – self aware)
 - Purpose -- evolutionary imperative (evolve or die)
 - Self modifying – Self improving
- ▣ Identical attributes of that first living biological cell



Summary

- ❑ Consciousness is best modeled as a superset -- a self-modifying digital information system capable of computing virtual realities
- ❑ The larger consciousness system evolves by lowering the entropy of the system.
- ❑ It lowers the entropy of the system by organizing the bits at its disposal into a more profitable configuration.
- ❑ Content creation and reorganization opportunities are generated by using conscious intent to apply free will choice to incoming experience data
- ❑ Feedback of the results of previous choice allow us to modify future choice (free will)



Generating Experience

Individual Existence And Purpose

- ▣ Because experience is the generator of input, consciousness facilitates its own evolution by creating many smaller units of consciousness and setting them loose to evolve (lower their entropy) by interacting with free will.
- Purpose and the positive direction of that purpose (evolution) is thus defined
 - ▣ Positive vs. negative, good vs. bad, evolution/devolution are defined – morality, spiritual growth, love are all defined as measurable quantities in terms of entropy

Physical Reality

- ▣ To produce an effective/profitable interaction, you need two things:
 - Goal – purpose, direction, profitability
 - Constraints provide structure – they define and limit the interaction with a rule-set. Define the context of the interaction in order to optimize the value of the experience.
 - ▣ Process, strategy, logic, order, and feedback are results of rules or constraints – no structure encourages high entropy behavior/interaction
- ▣ Experience requires interaction. To make that interaction more effective a simpler constrained environment is needed – our local physical reality is an elementary school – a virtual reality learning lab for individuated units of budding consciousness.
- ▣ Physical reality is a digitally based virtual reality where interactions are constrained according to a given rule-set: local physics
- ▣ Next Level of relativity: there is no absolute or fundamental reality frame within the system.

Past, Present and Future

- ▣ Multi-player Virtual reality system
 - Present choices drive change (implies local VR time)
 - Choice modifies future probability, which modifies choice
 - The server records everything - historical database (DB)
- ▣ Consciousness system “simulates” or computes PMR – one Δt at a time
 - Probable future DB – preprocessing -- all possible choices and their expectation value. We may trace the most likely choices
 - Past DB – the result of those choices – our history thread
 - Un-actualized past DB -- all the choices that were not made
 - ▣ Everything that can happen but doesn't – (many worlds, parallel universes – error in thinking that past, present and future are all simultaneous)

What You Find in NPMR – Your Influence

- ▣ Experiences within various reality frames are defined and limited by fears and beliefs – You create your own reality through personal belief and interpretation
- ▣ Your consciousness defines your reality
 - Inside data (you create it – your interpretation) or outside (“objective”) data all looks the same and all is interpreted and processed subjectively
- ▣ You experience the fear in your mind as reality
 - Not returning – the wall metaphor
 - The thing that gets you – the hook or demon
 - Going somewhere – the door or tunnel; motion, traveling, flying
 - The white light – the source, great orifice, and god metaphor
 - Silver cord metaphor
 - Specific beings – angels, saints, relatives, hooded robes, historical figures, wise mentors – all metaphors and symbols
- ▣ **Solution: Get rid of the junk – ego, fear, beliefs**
 - Explore, research, experiment – always be open & skeptical believe nothing, have no expectations, be a detached scientist ²²

The Nature of Virtual Reality

- ▣ Does Oxygen need to be rendered for the characters in WOW or Sims to breathe?
- ▣ Computational requirements are greatly reduced since only effects need to be rendered and only to individuals making a measurement
 - The engine under the hood, the back side of the moon, stars (day and night), the oxygen in the room, the brain in your head.
- ▣ **When something is rendered, it must be consistent both historically (with existing data) and causally (with the rule-set – must appear to have a consistent physical basis or physical justification)**
- ▣ Note: the consciousness system is playing all parts in this game – it controls the historical record and the rule-set – however meddling would ruin the integrity and thus the value of the VR
 - You , as consciousness are both the creator as well as the experiencer of the creation

Consciousness Experiencing a Virtual Reality Generated by Consciousness

- ▣ The system is designed to facilitate its own evolution by providing a PMR where **experience and feedback** facilitates your evolution.
- ▣ **Conscious intent changes the probabilities:** Talking to the car, or plant, or job opportunity, parking place, weather, healing, etc. Power of Positive Thinking / prayer / Law of attraction.
- ▣ Conscious intent is the motive force within a consciousness system -- you are both the creator and the experienter
 - Consciousness intent is the driver of present choices. These choices influence the future probabilities (a system of feedback)
 - Intent directly influences probability. You create your own reality. (through limitations, interpretations, and by modifying the data stream)
 - ▣ Constraint: the rule-set (including Psi Uncertainty) and consistency in time and content – what comes in stays in until it exits by the rule-set
- ▣ The consciousness system **actively** supports your evolutionary success. (nudges, synchronicity, etc)
 - That **conscious intent changes the probabilities** is predictive and measurable (placebo)

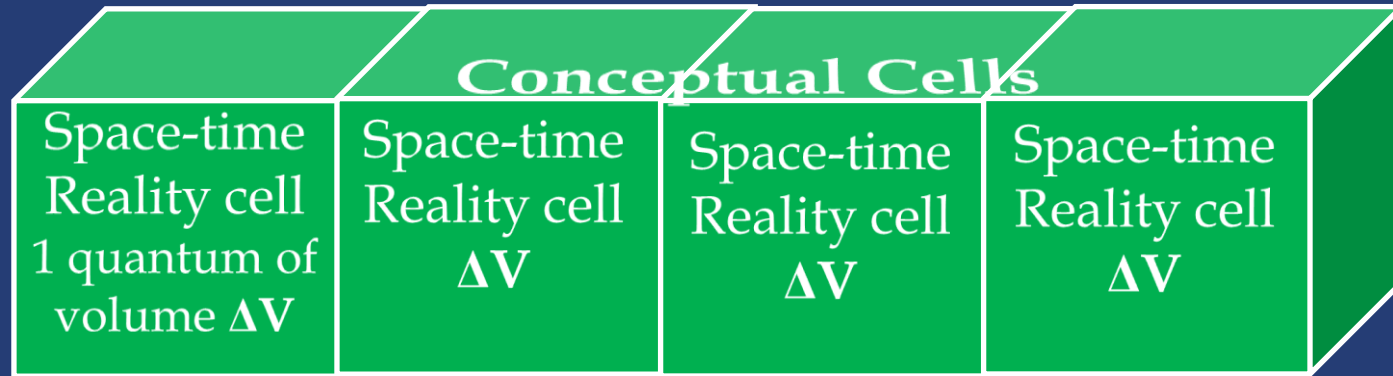
Synchronicity and Other Anomalies of a Statistically Based System

- ▣ The system only has to compute the probability of the next thing happening according to the **rule-set** and to **history**.
 - The system can use the lowest fidelity statistical representation that maintains **known** historical consistency and does not violate the rule-set. **Uncertainty provides multiple solutions.**
- ▣ Weak history gives the system fewer constraints: Your car keys, grandma's ring, and no beer in the fridge
 - No records/measurement - and a plausible "normal" explanation satisfies psi uncertainty and violates no rules.
 - ▣ Because it can and fewer constraints saves cycles. It is not a deterministic reality.
 - ▣ Because it provides the flexibility to create a learning opportunity in support of the evolution of your consciousness. (lose a ring)
 - ▣ Synchronicity.
 - If, because of low fidelity modeling, if the system very occasionally gets stuck, it can always cheat, but tries very hard to minimize such problems and pick the cheat of minimum effect. Must obey psi uncertainty.

The False Appearance of Backward Causality

- ▣ Length of hospital stay
 - Bias generated in expected results of shorter than average stay
- ▣ Radioactive decay
 - Bias generated in expected results of time between decays
- ▣ Specification of outcome was uncertain -- still in the future
- ▣ Repeat experiment but determine ahead of time, how many from each group went home early
- ▣ Present intent affects future outcomes.
 - Interpretation, belief, feedback and focused present intent)
 - Note connection of QM to healing and talking to your car.
- ▣ No inconsistency in the rule-set, No conflicts with known information.

To Render a Virtual Interactive Reality, One Must Define a Virtual Space



Resolution - Pixel size // Frame rate - Refresh rate

In PMR: Specify the size and speed of required resources

- ▣ 3D Pixel - 1 quantum of PMR Volume ΔV (DELTA-V)
- ▣ Frame Rate - 1 quantum of time Δt (DELTA-t)

Unperturbed Space-time at rest must be homogeneous and isotropic to be functional (work with our rule -set), thus ΔV and Δt must be **constant** - otherwise a "fun house" reality

$$c = \frac{\sqrt[3]{\Delta V}}{\Delta t}$$

Relativity Derived

- ▣ Relativity Theory is a logical consequence of c being constant
- ▣ c being constant is a logical consequence of reality being digital and virtual
 - Each cycle around the time loop represents a constant unit of time
 - ▣ Time in the computer room vs. time in the simulation
 - ▣ Characters in a film – press the “stop” or “hold” button
 - Δt must be constant, thus c must be constant $c = \frac{\sqrt[3]{\Delta V}}{\Delta t}$
- ▣ The magnitude of c represents a constant that specifies the demands placed upon the virtual reality rendering engine
 - C is specified / evolved to suit the available computational resources within the larger consciousness system.

Summary and Results

Summary:

- ▣ Modeling consciousness as a self-modifying digital information system that evolves toward states of lower entropy
- ▣ Physical reality is a virtual reality – a subset of the larger consciousness system designed to help budding individuated units of consciousness (called an entity) evolve (lower their entropy) through experience/interaction

Result:

- ▣ Physics and metaphysics become parts of one logical theory and are thus unified. Eastern philosophy and theology have been Integrated with science.
- ▣ Love and spirituality are both defined in terms of entropy – a measurable quantity -- i.e., quantities suitable to the ways of physics
- ▣ Normal and paranormal are Unified as ordinary artifacts of interaction within and between reality frame perspectives of the larger reality system.
- ▣ The fundamental purpose of existence in general and our existence in particular has been derived – to evolve toward lower entropy states
- ▣ Time, Relativity, and Quantum Mechanics have been derived from one set of fundamental principles

Additional Results

- ▣ Lowering entropy increases the energy/power/information available to the evolving entity.
- ▣ Lowering entropy, spiritual growth, increasing the quality of consciousness, evolving one's consciousness, and growing up are all different expressions for the same thing.
- ▣ Love is defined as the fundamental expression of low entropy consciousness.
- ▣ The larger consciousness system is an aware evolving system. It is real and therefore finite.
- ▣ We are an individuated unit of consciousness, a chip off the Old Block (larger system)-- one with All That Is
- ▣ All reality frames and everything contained in them are a part of the same consciousness system – all are connected
- ▣ What is the difference between physical and nonphysical reality frames? -- only the observer's perspective

Graphics Quality in PMR Simulation

Video Lag – Change What You Can

- ▣ “Video lag” is the major problem in virtual reality games
 - The image on the local computer (individual brain/body) executes more slowly than on the server (consciousness)
- ▣ “Slow” and “last in line” both create latency problems – one must change what one can
- ▣ The WOW computer game cannot change “last in line”, it can’t change “slow” either, but **you can** by speeding up the hardware (network and local computer)
- ▣ The virtual PMR game cannot change “slow” by speeding up the hardware (brain and muscle response) –that is fixed by the rule-set. But it **can change** “last in line” by giving the slowest elements in the sequence a head start so that your intellectual awareness (local consciousness) and body motion seem smooth and well connected

There Is Consciousness And Then, There Is consciousness

- ▣ consciousness is nothing but a shadow of Consciousness.
- ▣ The intellectual awareness or local consciousness must necessarily be a product of data interpretation – which makes it a product of Consciousness.
- ▣ Little c local consciousness is caused by data generated by Consciousness being interpreted by a subset of that Consciousness called an FWAU

An Optimal Design

1. Within consciousness, the near probable future choice is computed
 2. Next, within the context of a virtual PMR, **the virtual body automatically starts to react** as the **virtual brain** emulated within the FWAU receives the probable future data stream (slowest process comes first)
 3. Then, in the present, the choice is changed or continued by the consciousness
 4. And finally the probable future data and present experience data are interpreted into an intellectual, local, situational awareness by the virtual brain emulator within the FWAU (fast process goes last)
- ▣ this significantly reduces apparent “video lag” between body motion (slowest component) and local mental awareness (much quicker process). small times and high future probabilities produce few errors. Much better design.

Anticipation of Future Events

- ▣ *Dean Radin's studies showing the body reacts to a calm or disturbing picture six or seven seconds before any information energy or photons is available to have any effect on the body, meaning no [physical] energy is involved.*
- ▣ *Likewise researchers have shown that people physiologically manifest empathy at a distance*
- ▣ *Precognitive dreams and prescience are commonly experienced by millions*

[probable reality database allows anticipation of future events as can networked communications]

Reverse Causality

- ▣ *The retro-intention studies showing that intention somehow **has an effect on** an experiment group of cardiac intensive care patients* that were in treatment nine years previous to the healing intention effort, and that clicks on **Geiger counters** recorded at one time **can be influenced by*** consciousness a year later to have more of the recorded clicks come from the left or right speaker of a headphone, depending on the listener's intention*
- ▣ *Consciousness **can affect machines that use energy***, such as random-number generators, random-noise generators, telephones, recorders, and the like. ***Effects output data***
[Your present intent and consciousness system's nudges can modify future probability. The effects must remain within the allowable uncertainty]

A Physical Explanation of Artifacts of Consciousness Always Fails

- ▣ *The fact that no one has been able to use a form of energy to interfere with any of the telepathy, remote viewing, or psi experiments, which would be expected if they were created by some form of energy. However, the intentions of the experimenter do affect the phenomena.*
- ▣ *The fact that remote viewers and people in telepathy experiments in Faraday cages, shielded from electromagnetic energy, are as able to remote view or experience telepathic information as when outside of the cages.*

[Consciousness is not a physical phenomena] The physical is a virtual reality – data streams to individuals

Value Of A Theory

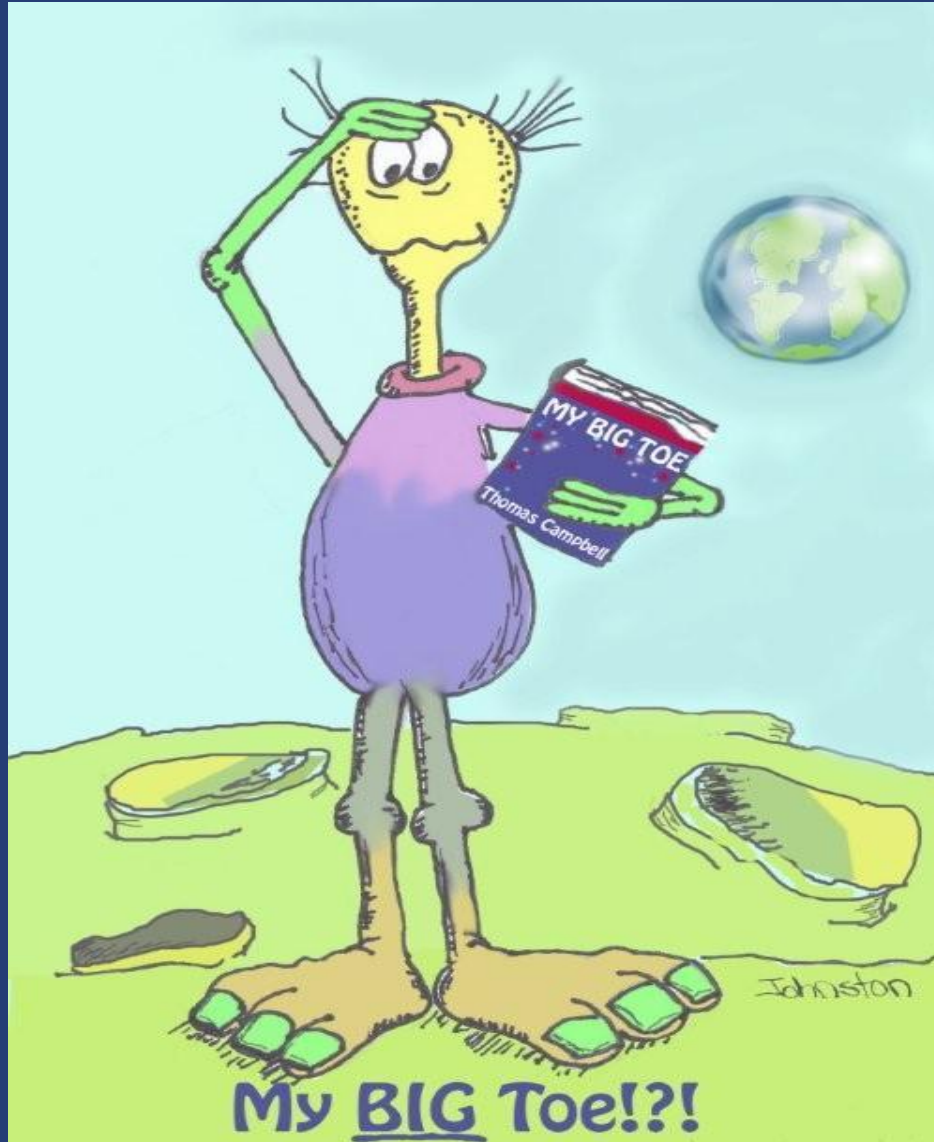
- ❑ ~~It supports current scientific beliefs~~ --- NOT
- ❑ It explains what is known
 - Fewer assumptions is better
- ❑ It explains what is unknown
 - Makes sense of what is now paradoxical or mysterious
 - Consciousness / free will / placebo / healing / Wave particle duality / precognitive dreams / anticipatory knowledge / reverse causality / readiness potentials / empathy at a distance / UFO experiences / OOBIE / entangled pairs / remote viewing / human purpose / spirituality / metaphysics / failure of physical explanations to explain consciousness / that physical artifacts (Faraday cage) has no direct affect on consciousness / importance of attitude / luck (good or bad) / synchronicity / And delivers Einstein's little TOE
 - Provides new insight and predicts new information
 - Provides a comprehensive consciousness model and brain function model, human physical action, reaction, and interaction model / predicts conscious computers / introduces process fractals and a more productive and useful cosmology / creates new connections between everything: the paranormal becomes normal, and integrates East and West turning mysticism into science.
- ❑ Experience (collected data) must verify the new information

What Now?

Breakthrough or Delusion?

- ▣ Does this guy know what he is talking about?
- ▣ Or Does he just think he knows?
- ▣ Are his experiences real?
- ▣ Or does he just think they are real?
- ▣ **Unless you have extensive experience with the larger consciousness system, you must have this question**
- ▣ There is strong consistency among those of us who do have that experience – 4000 years ago to now – 600 BC Lao Tzu wrote the Tao Te Ching.
- ▣ These concepts of reality are not new – that they are logically derived from first principles in the language of science is new
- ▣ What to do about it
 - Get involved – go find out
 - This is really about YOUR big TOE
 - FIND OUT!

Questions?



Drawing by:

Judy Johnston